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Age-Related Differences in Perception of Quality of Discharge Teaching and Readiness for Hospital Discharge

Kathleen Bobay

Marquette University, kbobay@luc.edu

Teresa A. Jerofke

Marquette University (Graduate Student)

Marianne E. Weiss

Marquette University, marianne.weiss@marquette.edu

Olga Yakusheva

Marquette University, olga.yakusheva@marquette.edu

Age-Related Differences in Perception of Quality of Discharge Teaching and Readiness for Hospital Discharge

By Kathleen L. Bobay, Teresa A. Jerofke, Marianne E. Weiss, and Olga Yakusheva

Adults aged 65 and older account for one third of all hospitalizations in the United States.¹ Almost one fifth (19.6%) of Medicare beneficiaries discharged from an acute care hospital are readmitted within 30 days.² High readmission rates have been attributed to inadequate discharge preparation, lack of patient and family caregiver readiness, poor discharge transition coordination, and unsuccessful coping with the demands of daily living.³⁻⁹ Discharge needs may be different for older adults than for the general population because of the increased likelihood of multiple comorbidities, illness-induced limitations, impaired mobility, fatigue, anxiety, cognitive impairment, hearing impairments, health literacy deficits, and living alone.^{7,8,10-12}

The purpose of this study was to investigate differences in perceptions of the quality of discharge teaching and readiness for hospital discharge and their relationship to postdischarge utilization of emergency department (ED) visits and readmissions across the older adult age spectrum. Of particular interest is the applicability of quality of discharge teaching and discharge readiness assessment tools for the older adult population. (*Geriatr Nurs* 2010;31:178-187)

Background and Significance

Older adults may face many disturbances in the transition from hospital to home including medical errors, poor communication, service duplication, incomplete transfer of information, inappropriate care, inadequate education of patients or their caregivers, limited access to essential services, absence of a designated person responsible for promoting continuity of care,¹³ and critical elements of the care plan “falling through the cracks.”¹¹ Hindrances to care transitions are linked to poor patient outcomes, patient and family dissatisfaction, rehospitalization, or inappropriate use of emergency room or urgent care facilities.^{8,11}

Anticipatory assessment of discharge needs for older adults can be difficult because patients may not anticipate obstacles to daily living at home while still hospitalized¹⁴⁻¹⁶ and may be reluctant to complain to avoid being perceived as ungrateful.⁷ Failure to assess and identify postdischarge needs before or during the hospitalization allows them to emerge during the post-hospitalization period as problems or adverse events.¹⁷ In contrast, in studies of discharge transitions in which elders and their caregivers were encouraged to identify postdischarge needs and preferences and to seek answers to questions about the elder’s conditions before leaving

the hospital, they felt more prepared to manage their care, received more information about care management,¹⁸ and had fewer readmissions.¹⁹

Discharge preparation is the primary strategy for increasing patient readiness for hospital discharge and decreasing postdischarge use of emergency visits and readmissions. Discharge preparation has been found to be more successful when providers accurately evaluate individualized patient needs early in the hospital stay.^{20,21} Nurse-delivered discharge teaching increases self-care adherence, improves clinical outcomes, and reduces cost of care.²² In a study investigating the relationship between quality of discharge teaching and readiness for hospital discharge among adult medical-surgical patients, nurses' skills in "delivering" discharge teaching was a stronger predictor of discharge readiness than the amount of discharge preparatory content patients received.²³

Routine "one-size-fits-all" discharge processes may produce gaps in communication between health care providers and older adult patients that neglect the older patient's perceptions of their needs.^{7,18,24} Patients are too often discharged home with little information about their medications or their condition and without consideration for their unique home situation or how they will cope once discharged. Not surprisingly, they report difficulty adhering to specialty diets and lack of understanding about activity restrictions.^{5,18,25}

Obstacles to successful discharge preparation are more pronounced for older adults due to a number of factors: lack of attention during teaching due to pain or fatigue²⁶; feelings of stress or anxiety over the imminent discharge^{27,28}; intimidation by the complexity of the medical information²⁸; information overload, causing the receipt of selective information²⁸⁻³⁰; timing of the information; and hurried teaching because of time constraints of the nursing staff.²⁸

Many nurses acknowledge that patient readiness for discharge is multifaceted and includes assessment of physical, social, and psychological states; understanding of condition, medications, physical limitations, and what to expect; and consideration of outside resources including community resources and social support.^{19,31-35} Emphasis is often placed on the patient's physical needs and information giving, neglecting to address psychosocial or outside resources.^{36,37} This approach sets the stage for an unsuccessful discharge transition because older adults place greater importance on coping with caring for self while relying on supportive persons, resources, or services to assist them.¹⁰

The focus of this study was assessment of quality of discharge teaching and readiness for discharge from the perspectives of 4 age groups of older adults and the utility of assessment tools in anticipating postdischarge utilization.

Theoretical Framework

Meleis and colleagues³⁸ identified that during a transitional event such as the transition home following hospitalization, the conditions that facilitate or inhibit the person's transitional journey and the therapeutic practices of the nurse all affect patterns of response to the transition. Transition conditions are the personal or environmental conditions that facilitate or hinder progress toward achieving a healthy transition, represented in this study by the focal concept age. Nursing therapeutics include the processes of care that are directly delivered to the patient, represented in this study by the quality of discharge teaching provided by nurses as evaluated by the patient. Patterns of response are the transition outcomes. In this study, the proximate outcome was readiness for hospital discharge and the distal outcome was postdischarge utilization of ED visits or readmissions in the first 30 days postdischarge.

Methods

This study was part of a larger study, funded by the Robert Wood Johnson Interdisciplinary Nursing Quality Research Initiative (INQRI), of the trajectory of influence of nursing staffing at the hospital unit level on patient perceptions of quality of discharge teaching, readiness for hospital discharge, and postdischarge readmissions and ED visits. For this analysis, a comparative design was used to uncover differences in discharge process and outcomes for older adult age groups.

The research questions for this study were as follows:

1. Are the measures of quality of discharge teaching and readiness for hospital discharge reliable across older adult age groups of medical-surgical patients?
2. Are there differences in the perceptions of the quality of discharge teaching and discharge readiness between younger adults and 4 age groups of older adults?
3. What is the relationship between quality of discharge teaching and discharge readiness for older adults?
4. Are patient perceptions of discharge readiness predictive of postdischarge utilization for older adults?

Sample and Setting

The study sample included 1892 English-or Spanish-speaking adult medical-surgical patients who were discharged to home without hospice care from 16 medical-surgical units in 4 Magnet-designated hospitals in the Midwestern United States. A family caregiver served as the study participant if the patient was decisionally incapacitated or had a signed power of attorney

form ($n = 18$). A separate caregiver form was used that had the same questions as the patient form but was reworded for caregivers. Obtaining the caregiver perceptions is appropriate because their readiness to provide care postdischarge is important. Study participants were randomly selected using a within-unit randomization process between January and August 2008. Of those enrolled, 1458 (77.1%) completed quality of discharge teaching and 1449 (76.6%) completed readiness for hospital discharge assessments before going home.

Study Variables and Instruments

Age groups. Patients were categorized in four age groupings: 1) age 55 to 64; 2) age 65 to 74; 3) age 75 to 84; and 4) age 85 years and older. These older adult groups were compared with patients younger than 55 years of age.

The Quality of Discharge Teaching Scale (QDTS) is a 24-item questionnaire that uses a 0-to 10-point response format. It explores 3 areas of patient perceptions of their discharge teaching: content needed, content received, and the delivery of discharge teaching. The Content Needed subscale measures how much information patients thought they needed before discharge and is used for comparison with the Content Received subscale, which is a measure of how much they actually received. The Delivery subscale reflects the skill of the nurses in providing the information needed for discharge. The total scale, calculated as the sum of Content Received and Delivery subscales, can be considered both a measure of receiver characteristics of nursing process and the outcome of the nursing process of discharge teaching. Previous Cronbach's alpha reliability for the entire scale is .92 and .85 and .93 for the content received and delivery subscales, respectively.^{23,39}

The Readiness for Hospital Discharge Scale (RHDS) is a 21-item patient self-report questionnaire that uses the same scaling format as the QDTS to measure 4 components of patients perceptions of their readiness to go home from the hospital: 1) how the person is feeling on the day of discharge (Personal Status); 2) how much the patient knows about self-management at home (Knowledge); 3) how well the patient will be able to manage self-care at home (Perceived Coping); and 4) how much emotional support and help will be available at home (Expected Support). Previous reliability for the RHDS was .93 for the total scale and .82 to .90 for the subscales.³⁹

Postdischarge Utilization. Data on ED visits and readmissions within 30 days postdischarge were extracted from hospital information systems using a cross-hospital searching procedure to identify utilization occurrences at any of the 4 study hospitals. Medical records were then reviewed to exclude any planned readmissions or return ED visits. Utilization was coded as

readmission (including those patients with readmission and ED visits) or ED visit only (no readmission in the 30-day period).

Data Collection Procedures

Following approvals from university and study site institutional review boards, trained study research assistants completed informed consent procedures and arranged for completion of the QDTS and RHDS within 4 hours before patient discharge. All other data were retrieved from hospital information system databases.

Results

Sample Demographics

More than half of the total sample were older adults aged at least 55 years ($n = 1108$, 58.6%) and female ($n = 1036$, 54.7%). The age group 55–64 comprised 22% of the sample, 65–74 was 18%, 75–84 was 15%, and 85 and older was 4%. Significant differences were found between age groups, with fewer male [$\chi^2(4, n = 1892) = 15.89, P = .003$], fewer married [$\chi^2(4, n = 1892) = 44.72; P = .001$], more living alone [$\chi^2(4, n = 1712) = 77.26; P = .001$], lower education [$\chi^2(19, n = 1850) = 130.19; P = .003$], and fewer black patients [$\chi^2(16, n = 1849) = 144.37; P = .001$] in the oldest age group. Older patients were more likely to have a prior hospitalization for the same condition [$\chi^2(4, n = 1892) = 10.18; P = .04$], to have been hospitalized within the past 3 months [$\chi^2(4, n = 1751) = 21.57; P = .04$], to have received transition coordination services such as case management or community referral [$\chi^2(4, n = 1892) = 30.43; P = .001$], and to have had a home health visit posthospitalization [$\chi^2(4, n = 1892) = 45.39; P = .001$]. (See Table 1 for sample characteristics.)

Reliability Testing of QDTS and RHDS for Older Adults

The QDTS and RHDS were found to be reliable for all age groups. Cronbach's alphas for the QDTS total score ranged from .88 to .93 across the age groups and from .83 to .94 for the sub-scale scores. The RHDS was also reliable with Cronbach's alpha for the total scale ranging from .86 to .91 and subscales scores from .74 (personal status) to .90 (coping ability and expected support; see Table 2).

Perceptions of Quality Discharge Teaching and Readiness for Discharge

Mean scores by age group for QDTS and RHDS scales and subscales are presented in Table 2. Using analysis of variance tests, differences across age groups for the QDTS Content Received sub-scale [$F(4,1435) = 5.266, P = .03$] were detected. Older patients perceived that they received less content than patients aged 55 to 64 and 65 to 74. There were no significant differences between age groups on Content Needed or Delivery of discharge teaching.

Readiness for discharge was assessed with a single-item dichotomous question and with the RHDS. On the single item, between 0% and 5.8% of patients rated themselves as not ready for discharge. In contrast, using an RHDS cutoff score of less than 7, 13.8% to 24.5% of patients reported their lack of readiness. Overall, older patients rated themselves as slightly more ready to go home than younger patients on the total scale [$F(4,1444) = 4.13, P = .003$] and on Personal Status [$F(4,1436) = 6.96, P < .001$], Knowledge [$F(4,1404) = 5.46, P < .001$], and Coping Ability [$F(4,1440) = 3.21, P = .012$] subscales. There were no statistically significant differences related to Expected Support. Specific differences across age groups are noted in Table 2.

Relationship between QDTS and RHDS

Pearson *R* correlations between QDTS and RHDS total scale scores and subscale scores were higher for the Delivery subscale than for the Content Received subscale (see Table 3). QDTS Content Received was significantly associated with all subscales of the RHDS for patients younger than 55 years, but only with the Knowledge and Expected Support scales after age 55. Delivery of teaching was strongly correlated with all RHDS subscales until age 85, when Delivery was no longer associated with RHDS.

Postdischarge Utilization and Positive Predictive Values of RHDS

Readmissions and ED visits within 30 days postdischarge were analyzed by age group using Chi-square analysis. There were no significant differences in readmissions or ED visits postdischarge between age group categories (see Table 4). Positive predictive values were calculated using RHDS subscale scores of less than 7 to determine whether assessment of discharge readiness could assist with early identification of those at risk for postdischarge utilization (ED visits or readmissions) within 30 days. There were significant differences in the number of patients reporting mean and subscale scores less than 7 across age groups [$\chi^2(4, n = 1449) = 14.75; P = .01$; see Table 4]. Overall, more younger patients had low readiness scores than older patients, with the exception of the Knowledge subscale on which the oldest patients more frequently reported low readiness. The positive predictive value of the RHDS increased

with age, especially in the oldest (85 years and older) population (see Figure 1). Nearly 45% of the oldest patients with perceived Coping Ability below 7 were readmitted or used the ED within 30 days. More than 30% of the oldest patients were likely to have postdischarge utilization if scores on Personal Status and Expected Support were below 7 on the RHDS. For all ages 65 and over, there was a progressive increase in predictive values of RHDS scores. Interestingly, Knowledge subscale scores did not have high positive predictive values.

Discussion

This study sought to investigate differences in perceptions of discharge preparation and discharge readiness for 4 groups of older adults compared with younger adults. Instruments to evaluate quality of discharge teaching and discharge readiness have not been previously evaluated specifically for use with older adults. Testing supported reliability for use across age groups. Relationships between QDTS and RHDS and the association of RHDS with postdischarge utilization support the validity of the instruments for assessment of the discharge transition. RHDS is a more sensitive and specific measure than a single-item question about discharge readiness.

Quality of discharge teaching was associated with discharge readiness for patients less than 85 years old. Correlations between QDTS and RHDS were highest for the Knowledge subscale, as expected. The perceived quality of Delivery of discharge teaching, measuring the skills of nurses in delivering effective teaching, was more highly associated with how ready the person felt physically, how knowledgeable they were, how much they felt they could cope, and how much support they expected to have at home than Content Received. This finding is consistent with previous research findings.²³ The exception was for patients 85 years or older, for whom there was no association between QDTS and RHDS. In addition, the oldest patients reported receiving less discharge informational content than others. The reasons underlying this finding were not evaluated in this study, but it might suggest that assumptions are made that older patients have been hospitalized before, often for the same condition; therefore, they already know everything they need to know about their condition. Nurses should assess what older patients know at each hospitalization and update information as needed. Another possible explanation is that older adults may require additional time and different methods of teaching to understand discharge instructions than younger adults.⁴⁰ Mild cognitive issues, especially after an acute illness, may also affect an older adult resulting in short-term memory difficulties; this may affect their perception of the quality of discharge teaching.¹² Patients may expect health care providers to provide all of the necessary education, may not see the need to ask additional

questions⁴¹ or may encounter discrepancies as to what information may be important for the nurse to give and what information may be important for the patient to receive.⁴²

RHDS was increasingly predictive of postdischarge utilization of ED visits and readmissions as age increased. Quality of discharge teaching was associated with patients feeling ready to go home. For the oldest patients, factors other than the quality of discharge teaching appear to be more important in preparing them for hospital discharge. This is important because values of the RHDS less than 7 were most predictive of postdischarge utilization in people older than 85. Relying solely on discharge teaching as the strategy for discharge preparation will not achieve desired outcomes for this patient group. Discharge preparation may be influenced by system constraints and managed care directives, minimizing a patient-centered care approach.¹⁷ With an emphasis on timely discharge as a way to cut costs, it is often simpler to make discharge decisions for patients rather than in collaboration with them and their family members. Discharge coordination may be more successful when using a multidisciplinary approach. A multidisciplinary team approach along with open, honest, continuous, and timely communication among health care providers, older adults, and their family members was crucial in what was termed “proper” discharge.^{17,36,42,43} Patient readiness for discharge is a multifaceted outcome that includes consideration of outside resources concerning access to health care systems, community resources, and availability of social support.

Application to Nursing Practice, Nursing Education, and Nursing Research

We believe that assessment of patient readiness for hospital discharge should become a standardized practice in all hospitals. With the current national focus on reducing readmissions, identifying patients at risk for readmission would allow nurses to intervene before discharge. Meleis and colleagues³⁸ transition theory offers a useful framework for evaluation of the multiple factors contributing to the discharge transition. The QTDS and RHDS used in this study can be useful tools for assessment of the discharge transition. Assessment of discharge readiness should be taught in prelicensure programs and as continuing education programs for nurses. Although findings about the relationship between discharge teaching and discharge readiness have been robust settings,^{23,34,44,45} over a variety of continued research in this area will reinforce the necessity of discharge assessment and identify intervention approaches for improvement of teaching as a nursing process and readiness for discharge as a nurse-sensitive outcome.

Study Limitations

Data were collected in four Magnet-designated hospitals. Findings may not be

generalizable to non-Magnet facilities. Older patients may have declined to complete study instruments for a number of reasons, such as vision problems, mild cognition problems, or other reasons. From the small number of family caregivers in the study sample, we may have undersampled decisionally incapacitated patients who are discharged home with family members. A strength of this study is the large sample size and broad range of patient ages in the sample. Data were collected in 16 medical-surgical units in four hospitals, which contribute to generalizability.

Conclusion

Age-related differences in quality of discharge teaching and readiness for hospital discharge point to the need for assessment before discharge. The QDTS and RHDS are reliable and valid instruments for assessment for all age groups of adult medical-surgical patients. The RHDS becomes increasingly predictive of postdischarge utilization as age advances.

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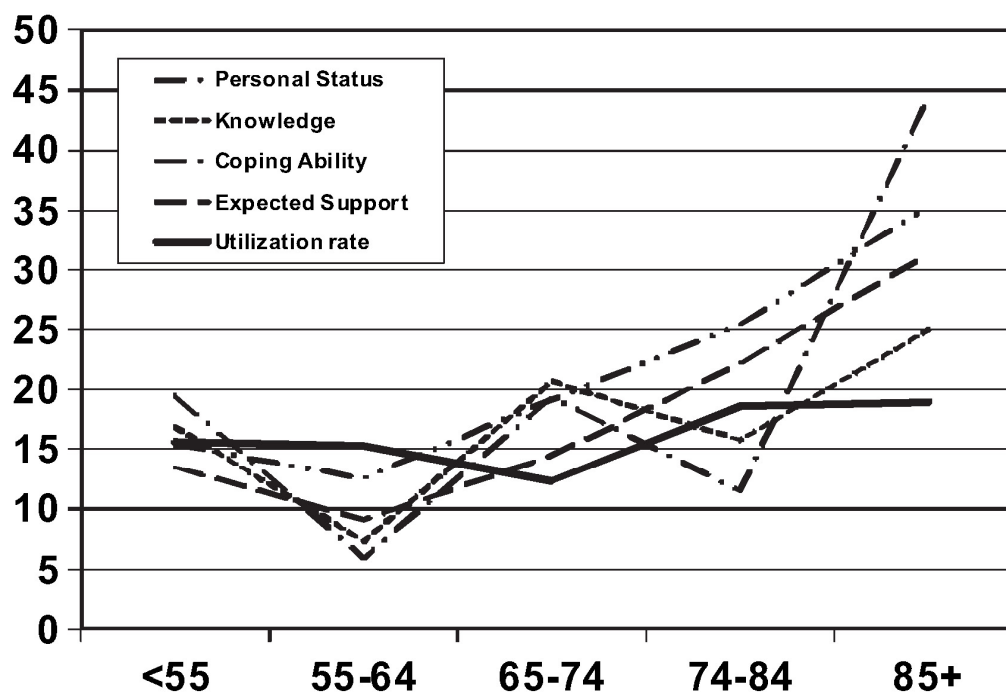
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Appendix

Figure 1: Positive Predictive Values of Readiness for Hospital Discharge Scale (RHDS) Subscale Scores Less than 7 for Prediction of Postdischarge Utilization of Emergency Department Visits or Readmission within 30 Days



Positive predictive values represent the number of people with an RHDS score less than 7 who had a postdischarge utilization event. Utilization rate is combined rate of ED visits and readmissions.

Table 1: Sample Characteristics

Characteristics	Age Group (N = 1892)				
	<55 n = 784 (41.4%) n (%)	55–64 n = 409 (21.6%) n (%)	65–74 n = 331 (17.5%) n (%)	75–84 n = 284 (15.0%) n (%)	85+ n = 84 (4.4%) n (%)
Male**	349 (44.5%)	209 (51.1%)	158 (47.7%)	113 (39.8%)	27 (32.1%)
Married***	354 (45.2%)	234 (57.2%)	201 (60.7%)	141 (49.6%)	25 (29.8%)
Lives alone***	129 (18.6%)	94 (25.3%)	77 (25.3%)	106 (39.8%)	42 (53.8%)
Education					
<High school	92 (12.0%)	47 (11.7%)	40 (12.4%)	50 (17.9%)	21 (25.9%)
≥4 Years college	211 (26.9%)	88 (21.8%)	71 (21.9%)	39 (13.9%)	11 (13.5%)
Race/Ethnicity					
White	528 (69.3%)	327 (82.0%)	290 (88.7%)	262 (39.6%)	79 (97.5%)
Black	155 (20.3%)	58 (14.5%)	21 (6.4%)	11 (3.9%)	2 (2.5%)
Hispanic	62 (8.1%)	4 (1.0%)	7 (2.1%)	5 (1.8%)	
Other	17 (2.2%)	10 (2.6%)	9 (2.7%)	2 (0.8%)	
Prior Hospitalizations					
For same condition*	302 (38.5%)	175 (42.8%)	141 (42.6%)	137 (48.2%)	41 (48.8%)
Within previous 3 months*	165 (23.5%)	102 (26.7%)	76 (24.0%)	97 (35.8%)	22 (27.6%)
Discharge Transition [†]					
Transition coordination***	229 (29.2%)	162 (39.6%)	125 (37.8%)	122 (43.0%)	41 (48.8%)
Home health***	86 (11.0%)	86 (21.0%)	69 (20.8%)	65 (22.9%)	26 (31.0%)

*P < .05.
**P < .01.
***P < .001.
[†]Discharge transition support includes: case manager, care coordinator, community services assessment and/or referral, home health referral.

Table 2: Quality of Discharge Teaching Scale (QDTS) and Readiness for Hospital Discharge Scale (RHDS) Means by Age Group

Scales	Cronbach's Alpha [†]	Age				
		<55 Mean (SD)	55–64 Mean (SD)	65–74 Mean (SD)	75–84 Mean (SD)	85+ Mean (SD)
QDTS						
Content Needed	.83–.87	4.0 (2.6)	4.1 (2.6)	4.2 (2.6)	3.8 (2.7)	3.7 (2.5)
Content Received*	.84–.87	5.0 (2.7)	5.3 (2.6) ^a	5.1 (2.7) ^b	4.6 (2.9)	4.4 (2.7) ^{a,b}
Delivery	.85–.94	7.7 (2.1)	7.9 (2.0)	7.9 (2.1)	7.7 (2.1)	7.7 (2.0)
Total (Received + Delivery)	.88–.93	6.8 (2.1)	7.0 (2.0)	6.9 (2.1)	6.6 (2.1)	6.6 (2.0)
RHDS						
Personal Status***	.74–.81	7.2 (1.7) ^{a,b,c}	7.5 (1.6)	7.5 (1.6) ^a	7.7 (1.6) ^b	7.9 (1.5) ^c
Knowledge**	.78–.89	8.1 (1.9) ^{a,b}	8.4 (1.5) ^a	8.6 (1.5) ^b	8.3 (1.7)	8.1 (1.7)
Coping Ability*	.81–.90	8.3 (1.9) ^a	8.6 (1.6)	8.7 (1.8) ^a	8.6 (1.7)	8.6 (1.6)
Expected Support	.82–.90	7.9 (2.6)	7.9 (2.7)	8.0 (2.6)	7.8 (2.6)	8.1 (2.3)
Total**	.86–.91	7.8 (1.6) ^a	8.1 (1.3)	8.2 (1.3) ^a	8.1 (1.4)	8.0 (1.4)

*P < .05.

**P < .01.

***P < .001.

[†]Range of Cronbach's alpha across age groups.

^{a,b,c}Denotes pairs of significant differences between age groups in ANOVA post-hoc analysis.

Table 3: Pearson R Correlations for Quality of Discharge Teaching Scale (QDTS) and Readiness for Hospital Discharge Scale (RHDS) Scores

Scales	Age				
	<55 Mean (SD)	55–64 Mean (SD)	65–74 Mean (SD)	75–84 Mean (SD)	85+ Mean (SD)
QDTS Content Received Subscale with RHDS					
Personal Status	.14**	.11	.04	-.04	-.11
Knowledge	.32**	.33**	.25**	.16*	.02
Coping Ability	.17**	.13*	.08	.05	-.14
Expected Support	.26**	.23*	.33**	.23*	.18
Total	.30**	.30**	.26**	.16*	.03
QDTS Delivery Subscale with RHDS					
Personal Status	.42**	.33**	.33**	.37**	.10
Knowledge	.62**	.50**	.46**	.50**	.08
Coping Ability	.47**	.36**	.28**	.42**	.20
Expected Support	.31**	.23**	.39**	.26**	.17
Total	.60**	.50**	.51**	.51**	.17

*P < .05.
**P < .01.
***P < .001.

Table 4: Readiness for Discharge and Unplanned Utilization within 30 Days Postdischarge

	Age				
	<55 <i>n</i> (%)	55–64 <i>n</i> (%)	65–74 <i>n</i> (%)	75–84 <i>n</i> (%)	85+ <i>n</i> (%)
Readiness for Discharge					
Single item – not ready	34 (5.8%)	13 (4.2%)	5 (2.0%)	9 (4.4%)	0 (0.0%)
RHDS score <7**	147 (24.5%)	59 (18.7%)	36 (13.8%)	37 (17.6%)	13 (20.6%)
RHDS Subscale <7					
Personal Status**	240 (40.1%)	103 (32.8%)	78 (30.4%)	59 (28.2%)	17 (27.0%)
Knowledge**	124 (20.9%)	41 (13.3%)	29 (11.8%)	38 (18.9%)	16 (26.2%)
Coping Ability**	118 (19.7%)	34 (10.8%)	31 (11.9%)	26 (12.5%)	9 (14.3%)
Expected Support	155 (26.0%)	77 (24.5%)	62 (23.9%)	54 (26.0%)	16 (25.4%)
Unplanned Utilization					
ED Visits	44 (5.6%)	19 (4.6%)	12 (3.6%)	11 (3.9%)	6 (7.1%)
Readmission	76 (9.7%)	46 (11.2%)	30 (9.1%)	42 (14.8%)	10 (11.9%)
Total (ED ± Readmission)	120 (15.3%)	65 (15.9%)	42 (12.7%)	53 (18.7%)	16 (19.0%)

ED = emergency department; QDTS = Quality of Discharge Teaching Scale; RHDS = Readiness for Hospital Discharge Scale.
 * $P < .05$.
 ** $P < .01$.
 *** $P < .001$.